Staff Summary
Innovative Crude Oil Production Method Application

Seneca Resource Corporation
North Midway Sunset Oil Field Solar Project, Kern County, CA

Date of Application: July 5, 2016
Date Posted for Public Comment: August 4, 2016
Date Approved: TBD

Project Summary

Under the Low Carbon Fuel Standard (LCFS), crude oil producers may generate credits for oil that has been produced using innovative methods and delivered to California refineries for processing. Seneca Resource Corporation (Seneca) has applied for LCFS credits for producing crude oil using solar generated electricity.

The Seneca Solar Project is a 3.13 mega-watt (MW) direct current, 2.5 MW alternating current fixed-tilt solar photovoltaic project located near the city of Taft in Kern County, California, at Seneca's North Midway Sunset oil field (Oil Field). In 2015 the Oil Field produced 1,442,809 barrels (bbl) of crude oil.

According to the documents supplied by the Applicant, the solar electricity will produce an average of about 20% of Seneca's historical electricity load, or approximately 5,400,000 kilowatt-hours (kWh) annually. The estimated amount of electricity generated is based on the system equipment specifications of the Solar Project, historical weather data in the region and estimated system losses based on system design.

Seneca stated that all of the produced solar electricity will be consumed onsite by Seneca's crude oil production equipment and that the system design prevents the export of electricity back to the utility.

Threshold Eligibility

Seneca meets the eligibility threshold of 0.10 grams of carbon dioxide-equivalent emissions per mega joule (gCO_2e/ MJ) carbon intensity (CI) reduction based on the following estimation:

$$\Delta CI_{Innov}\ (gCO_2e/MJ) = \frac{511\ gCO_2e}{kWh} \times \frac{(5{,}400{,}000\ kWh)}{1{,}442{,}809\ bbl} \times \frac{1\ bbl}{6{,}000\ MJ}$$

$$\Delta CI_{Innov}\ (gCO_2e/MJ) = 0.32\ gCO_2e/MJ$$

Staff Analysis

Seneca has provided all the required documentation, including the engineering and process flow documents, geo location, solar generation equipment capacity and electrical load schematics for staff review in its innovative method application. Seneca has demonstrated that the solar electricity will be exclusively consumed by the North Midway Sunset Oil Field equipment. The applicant has also shown that the project meets the minimum threshold requirement in CI reduction for innovative method, and attests to the accuracy of the information submitted in the application to represent the actual and/or intended long term, steady-state operation of the solar project.

Reporting Requirements

In order to earn LCFS credits following project approval, the applicant will be required to provide on a quarterly basis:

- The volume (bbl) of crude oil produced during the quarter using the innovative method and the crude name(s) under which it is marketed,
- the metered data on solar electricity consumed for crude oil production at the Oil Field during the quarter (kWh),
- the total electricity consumed for crude oil production at the Oil Field during the quarter (kWh), and
- an attestation letter stating that all solar electricity was supplied directly for crude oil production at the Oil Field and that the solar electricity reported for generating LCFS credit did not produce renewable energy certificates or other renewable attributes recognized or credited by any other jurisdiction or regulatory program.

All information supplied to ARB for credit determination is subject to verification.